

EXPRESS MAIL LABEL NO. EV325783240US

PATENT APPLICATION  
Docket No.: 2411.3194.3US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	)
	)
Farrell G. Badger et al.	)
	)
For: METHOD FOR BIOREMEDIATING	)
UNDETONATED EXPLOSIVE DEVICE	)
	)
Divisional of:	)
	)
Serial No.: 09/666,073	)
Of: Farrell G. Badger, et al.	)
Filing Date: September 19, 2000	)
Examiner: Peter A. Nelson	)
Art Unit: 3641	)

TRANSMITTAL FOR INFORMATION DISCLOSURE STATEMENT

Mail Stop: PATENT APPLICATION  
Commissioner for Patents  
United States Patent and Trademark Office  
P. O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

Transmitted herewith pursuant to 37 C.F.R. § 1.97 for filing relative to the above-captioned United States patent application is an Information Disclosure Statement, which includes the following statements, if any, required variously by 37 C.F.R. § 1.98:

- ☐ Statement of relevance of selected cited references not in the English language which are not translated.
- ☐ Statement that selected cited references are substantially cumulative of an enclosed or previously submitted reference.
- ☒ Statement that selected cited references were previously cited by or submitted to the United States Patent and Trademark Office in a prior application which is relied upon for an earlier filing date under 35 U.S.C. § 120 or § 121.

A. Additional Materials Required Due to Content of Information Disclosure Statement

Transmitted are the following documents in addition to the Information Disclosure Statement as required variously under 37 C.F.R. § 1.98:

X Form PTO-1449 listing one hundred eighteen (118) references submitted for consideration.

\_\_\_ Copies of \_\_\_\_\_ (\_\_\_) of the references listed on the Form PTO-1449.

\_\_\_ Specimens constituting \_\_\_\_\_ (\_\_\_) of the references listed on the Form PTO-1449.

\_\_\_ English translations of \_\_\_\_\_ (\_\_\_) of the references listed on the Form PTO-1449 which are not in the English language.

X Copies of the following documents from the prosecution of the Parent Application:

X Sheets of Form PTO-1449 as follows:

X As initialed by the Examiner on June 25, 2001, listing references A1-A47;

X As initialed by the Examiner on June 25, 2001, listing references A1-A3;

X As initialed by the Examiner on June 25, 2001, listing references A1-A4;

X As initialed by the Examiner on February 22, 2002, listing references A1-A7;

X As initialed by the Examiner on April 7, 2003, listing references A1-A59; and

X Sheets of Form PTO-892 as follows:

X As mailed from the Patent Office with Office Action on July 7, 2001, listing references A-B; and

X As mailed from the Patent Office with Office Action on March 21, 2002, listing references A-C.

B. Additional Materials Required Due to Timing of Filing of Information Disclosure Statement

The transmitted Information Disclosure Statement is being filed within one (1) of the following four (4) time periods:

- I.   X   Prior to the later of either three (3) months following the filing date or the mailing of a first Office Action. Accordingly, no materials other than those listed above are enclosed.
- II.        Following the later of either three (3) months following the filing date or the mailing of a first Office Action, but before the mailing of a final Office Action or a Notice of Allowance. Accordingly, to secure consideration thereof, one (1) of the following is also enclosed or authorized:
- Promptness Certificate; or
- The submission fee set forth in 37 C.F.R. § 1.17 (p) in the amount of \$180.00 is one (1) of the following:
- Enclosed as Check No.           ; or
- To be paid from the deposit account of the undersigned as authorized in Section C below.
- III.        After the mailing of a final Office Action or a Notice of Allowance, but before payment of the Issue Fee. Accordingly, in order to secure consideration thereof, each of the following are also enclosed or authorized:
- Promptness Certificate; and
- The petition fee set forth in 37 C.F.R. § 1.17(p) in the amount of \$180.00 is one (1) of the following:
- Enclosed as Check No.           ; or
- To be paid from the deposit account of the undersigned as authorized in Section C below.
- IV.        After payment of the Issue Fee. Accordingly, in order to secure consideration thereof, each of the following are enclosed or authorized:

\_\_\_\_ To withdraw the above-captioned application from issue, the following are enclosed:

\_\_\_\_ Petition to Withdraw from Issue; and

\_\_\_\_ The petition fee set forth in 37 C.F.R. § 1.17(i)(l) in the amount of \$130.00 is one (1) of the following:

\_\_\_\_ Enclosed as Check No. \_\_\_\_\_; or

\_\_\_\_ To be paid from the deposit account of the undersigned as authorized in Section C below.

\_\_\_\_ To proceed with further prosecution, the following are enclosed:

\_\_\_\_ Request for Continued Examination; and

\_\_\_\_ The fee for requesting continued examination set forth in 37 C.F.R. § 1.17(e) in the amount of \_\_\_\_\_ \$710.00 is one (1) of the following:

\_\_\_\_ Enclosed as Check No. \_\_\_\_\_; or

\_\_\_\_ To be paid from the deposit account of the undersigned as authorized in Section C below.

\_\_\_\_ The submission fee set forth in 37 C.F.R. § 1.17(p) in the amount of \$180.00 is one (1) of the following:

\_\_\_\_ Enclosed as Check No. \_\_\_\_\_; or

\_\_\_\_ To be paid from the deposit account of the undersigned as authorized in Section C below.

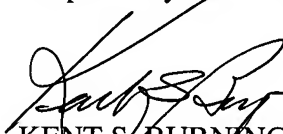
C. Fees

The Commissioner is hereby authorized to charge payment of or any deficiency in the following fees associated with this communication, or to credit any overpayment thereof, to Deposit Account No. 20-1469.

- ☒ Any fee required in relation to filing of this letter or any documents transmitted therewith.
- ☐ The submission fee set forth in 37 C.F.R. § 1.17(p) in the event that 37 C.F.R. § 1.97(c) applies and the Examiner is not satisfied that any Promptness Certificate submitted meets the requirements of 37 C.F.R. § 1.97(e)
- ☐ The submission fee set forth in 37 C.F.R. § 1.17(p).
- ☐ The petition fee set forth in 37 C.F.R. § 1.17(i)(l).
- ☒ Copies in duplicate of this letter are enclosed.

DATED this 3rd day of November, 2003.

Respectfully submitted,

  
KENT S. BURNINGHAM  
Attorney for Applicant  
Registration No. 30,453

TRASKBRITT, PC  
230 South 500 East, Suite 300  
Salt Lake City, Utah 84102 USA  
Telephone: (801) 532-1922  
Toll Free: (800) 900-2001  
Facsimile: (801) 531-9168

KSB/csw

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Docket: 2411.3194.3US

EXPRESS MAIL LABEL NO. EV325783240US

PATENT APPLICATION  
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	)
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Farrell G. Badger et al.	)
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For:	METHOD FOR BIOREMEDIATING
	UNDETONATED EXPLOSIVE DEVICE
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Divisional of:	)
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Serial No.:	09/666,073
Of:	Farrell G. Badger, et al.
Filing Date:	September 19, 2000
Examiner:	Peter A. Nelson
Art Unit:	3641

INFORMATION DISCLOSURE STATEMENT

Mail Stop: PATENT APPLICATION  
Commissioner for Patents  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

Pursuant to 37 C.F.R. §§1.97 and 1.98(a)(1), transmitted herewith is a Form PTO-1449 containing a list of all patents, publications, or other references that have come to the attention of one or more of the individuals identified in 37 C.F.R. §1.56(c). While no representation is made that any of these references may be "prior art" within the meaning of that term under 35 U.S.C. §102 or §103, the transmitted list of references is disclosed in compliance with the duty of disclosure set forth in 37 C.F.R. §1.56.

No representation is made that a specific search of office files or Patent Office records has been conducted, or that no better art exists. Nevertheless, the undersigned attorney of record believes that the transmitted references constitute art that is the closest to the claimed invention taken in its entirety of which the undersigned is presently aware, and no art which is closer to the claimed invention taken in its entirety has been knowingly withheld.

The references listed on the transmitted Form PTO-1449 are below classified for the convenience of the Examiner in the following category of references set forth for specific treatment in accordance with the subsections of 37 C.F.R. §1.98.

#### I. REFERENCES PREVIOUSLY DISCLOSED

The following references listed on the transmitted Form PTO-1449 were each previously submitted or cited by the United States Patent and Trademark Office in the prior prosecution of United States Patent Application Serial No. 09/666,073 filed on September 19, 2000 (hereinafter “the Parent Application”), which is relied upon by the present application for an earlier filing date under 35 U.S.C. § 121:

1. U.S. Patent Documents Previously Disclosed:

<u>Document No.</u>	<u>Issue Date</u>	<u>Patentee</u>
2,330,110	09/21/43	Buchan
3,157,119	11/17/64	Porter
3,710,718	01/16/73	Grant
4,016,117	04/05/77	Griffin
4,044,684	08/30/77	Gaggini et al.
4,064,941	12/27/77	Smith
4,108,728	08/22/78	Spinner et al.
4,351,729	09/28/82	Witt
4,365,557	12/28/82	Couture et al.
4,826,601	05/02/89	Spratt et al.
4,845,034	07/04/89	Menger et al.
4,919,813	04/24/90	Weaver
4,925,552	05/15/90	Bateson et al.
4,929,552	05/29/90	Gold et al.
4,961,381	10/09/90	McLaughlin
4,968,427	11/06/90	Glanser et al.
5,011,614	04/30/91	Gresser et al.
5,062,956	11/05/91	Lupton et al.
5,071,755	12/10/91	Nelson et al.

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1. U.S. Patent Documents Previously Disclosed (*continued*)

<u>Document No.</u>	<u>Issue Date</u>	<u>Patentee</u>
5,085,998	02/04/92	Lebron et al.
5,120,441	06/09/92	Jackson et al.
5,139,365	08/18/92	Chesner
5,139,776	08/18/92	Chazono et al.
5,296,146	03/22/94	Jackson et al.
5,302,285	04/12/94	Attaway et al.
5,314,821	05/24/94	Tyndall
5,370,845	12/06/94	Miller et al.
5,387,271	02/07/95	Crawford et al.
5,392,860	02/28/95	Ross
5,414,198	05/09/95	Broadman et al.
5,420,035	05/30/95	Tyndall
5,449,618	09/12/95	Tyndall et al.
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5,478,743	12/26/95	Perkins et al.
5,484,730	01/16/96	Tyndall et al.
5,511,482	04/30/96	DiPietropolo
5,518,919	05/21/96	Tyndall
5,543,324	08/06/96	Rajan et al.

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1. U.S. Patent Documents Previously Disclosed (*continued*)

<u>Document No.</u>	<u>Issue Date</u>	<u>Patentee</u>
5,578,487	11/26/96	Tyndall
5,578,488	11/26/96	Tyndall et al.
5,593,888	01/14/97	Glaze et al.
5,610,062	03/11/97	Tyndall
5,616,162	04/01/97	Crawford et al.
5,711,020	01/20/98	Wolfe et al.
5,736,669	04/07/98	Thomas et al.
5,763,736	06/09/98	Daume
5,763,815	06/09/98	Thomas et al.
5,814,514	09/29/98	Steffan et al.
5,928,859	07/27/99	Nicklin et al.
6,051,420	04/18/00	Radtke et al.
6,066,772	05/23/00	Hater et al.
6,084,150	07/04/00	Crawford et al.
6,120,627	09/19/00	Badger et al.
6,156,560	12/05/00	Chun
6,248,580	06/19/01	Spain et al.
6,274,368	08/14/01	Nicklin et al.
6,334,954	01/01/02	Crawford et al.

*continued . . .*

1. U.S. Patent Documents Previously Disclosed (*continued*)

<u>Document No.</u>	<u>Issue Date</u>	<u>Patentee</u>
6,348,639	02/19/02	Crawford et al.
2002/0078849	06/27/02	Badger et al.

2. Foreign Patent Documents Previously Disclosed:

<u>Country</u>	<u>Document Number</u>	<u>Date</u>
Europe	251,320	01/07/88
Europe	512,660	11/11/92
Germany	3,818,398	12/14/89
Germany	4,141,940	12/23/93
Great Britain	1,396,372	06/04/75
Netherlands	8,602,985	06/16/88
PCT	WO 91/15440	10/17/91
PCT	WO 95/01311	01/12/95
PCT	WO 95/03259	02/02/95
Russia	2,039,251	07/09/95

3. Other References:

- Berry, D.F., et al., *Microbial Metabolism of Homocyclic and Heterocyclic Aromatic Compounds Under Anaerobic Conditions*, 51(1) MICROBIOL. REV. 43-59 (Mar. 1987).
- Boopathy, R., et al., *Biological Transformation of 2, 4, 6 - Trinitrotoluene (TNT) By Soil Bacteria Isolated from TNT - Contaminated Soil*, 47 BIORESOURCE TECHNOLOGY 19 (1994).
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- Cartwright, N.J. et al., *Bacterial Degradation of the Nitrobenzoic Acids*, 71 BIOCHEM. J. 248-261 (1959).
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Goszczynski, Stefan, et al., *Isotopically Labelled Compounds for Hazardous Waste Site Cleanup Investigations: Part I. Synthesis of [phenyl-U-.sup.14 C] labelled 2,4-dinitro-6-sec-butylphenol (dinoseb) and [phenyl-U-.sup.14 C] labelled 4-n-propylphenol*, 24(1) J. LABELLED COMPOUNDS AND RADIOPHARMACEUTICALS 35-42 (1991).

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Heinis, F.S., et al., *Verwijdering van Bodemverontreiniging*, 39 PT/CIVIELE TECHNIEK 7-15 (1984).

Jensen, H.L., et al., *Microorganisms that Decompose Nitro-Aromatic Compounds, With Special Reference to Dinitro-Ortho-Cresol*, 17 ACTA AGRICULTURAE SCANDINAVICA 115-126 (1967).

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Kaplan, D.L., et al., *Thermophilic Biotransformations of 2,4,6-Trinitrotoluene Under Simulated Composting Conditions*, 44(3) APPL. ENVIRON. MICROBIOL. 757-760 (Sept. 1982).

Kaplan, David L., *Biotransformation Pathways of Hazardous Energetic Organo-Nitro Compounds*, in BIOTECHNOLOGY AND BIODEGRADATION 155-180 (Kamely, D. et al., eds. 1990).

Kaplan, David L., *Biotechnology and Bioremediation for Organic Energetic Compounds*, ORGANIC ENERGETIC COMPOUNDS, 373-416 (Marinkas, Paul L. ed. 1994).

Knezovich, John P., et al., *Chemical and Biological Systems for Regenerating Activated Carbon Contaminated with High Explosives*, paper submitted to PROCEEDINGS DEMIN '94 in Luxembourg, Luxembourg (November 14-16, 1994).

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3. Other References (continued)

Knezovich, John P., et al., *Chemical and Biological Systems for Treating Waste Streams Contaminated with High Explosives*, paper submitted for JANNAF Safety and Environmental Protection Subcommittee Meeting in Tampa, Florida (December 5-8, 1995).

Kuhn, Elmar P., et al., *Anaerobic Degradation of Alkylated Benzenes in Denitrifying Laboratory Aquifer Columns*, 54(2) APPL. ENVIRON. MICROBIOL. 490-496 (Feb. 1988).

McBride, Kevin E., et al., *Metabolism of the herbicide bromoxynil by Klebsiella pneumoniae subsp. ozaenae*, 52(2) APPL. ENVIRON. MICROBIOL. 325-330 (Aug. 1986).

McCormick, Neil G., et al., *Microbial Transformation of 2,4,6-Trinitrotoluene and Other Nitroaromatic Compounds*, 31(6) APPL. ENVIRON. MICROBIOL. 949-958 (June 1976).

Naumova, R.P., et al., *Possibility of Deep Bacterial Destruction of 2,4,6-Trinitrotoluene*, 57 MIKROBIOLOGIYA 218-222 (1988).

Parris, George E., *Environmental and Metabolic Transformations of Primary Aromatic Amines and Related Compounds*, 76 RESIDUE REVIEWS 1-30 (1980).

Preuss, Andrea, et al., *Anaerobic transformation of 2,4,6-trinitrotoluene (TNT)*, 159 ARCH. MICROBIOL. 345-353 (1993).

Pumfrey, L., et al., *A Clostridium Species that Grows on 2,4,6-trinitrotoluene (TNT)*, in ABSTR. 93<sup>rd</sup> GEN. MEET. AM. SOC. MICROBIOL. 421, Abs. No. Q-414 (1993).

Rafii, Fatemeh, et al., *Reduction of Nitroaromatic Compounds by Anaerobic Bacteria Isolated from the Human Gastrointestinal Tract*, 57 APPL. ENVIRON. MICROBIOL. 962-968 (1991).

Rafii, Fatemeh, et al., *Reduction of Azo Dyes and Nitroaromatic Compounds by the Same Extracellular Enzyme from Clostridium perfringens*, in ABSTR. 93<sup>rd</sup> GEN. MEET. AM. SOC. MICROBIOL. 276 (1993).

continued . . .

3. Other References (*continued*)

- Schink, Bernard, *Principles and Limits of Anaerobic Degradation: Environmental and Technological Aspects*, in BIOLOGY OF ANAEROBIC MICROORGANISMS 771-846 (Zinder ed. 1988).
- Shieh, Chih-Shin, *Physical and Chemical Behavior of Stabilized Sewage Blocks in Seawater*, 23(1) ENVIRON. SCI. TECHNOL. 121-125 (1989).
- Sidhoum, Mohammed, et al., *Enhanced Alkaline Hydrolysis and Biodegradability Studies of Nitrocellulose-Bearing Missile Propellant*, STEVENS INSTITUTE OF TECHNOLOGY 87-98 (January 1998).
- Simmons, Kathleen E., et al., *Oxidative Co-Oligomerization of Guaiacol and 4-Chloroaniline*, 23(1) ENVIRON. SCI. TECHNOL. 115-121 (1989).
- Smolenski, Walter J., et al., *Biodegradation of Cresol Isomers in Anoxic Aquifers*, 3(4) APPL. ENVIRON. MICROBIOL. 710-716 (Apr. 1987).
- Spain, Jim C., et al., *Enzymatic Oxidation of p-Nitrophenol*, 88(2) BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS 634-641 (1979).
- Stevens, Todd O., *Biodegradation of Dinoseb (2-sec-Butyl-4,6-Dinitrophenol) and Bioremediation of Dinoseb-Contaminated Soils* (Nov. 1989).
- Stevens, Todd O., et al., *Biodegradation of Dinoseb (2-sec-Butyl-4,6-Dinitrophenol) in Several Idaho Soils with Various Dinoseb Exposure Histories*, 56(1) APPL. ENV. MICROBIO. 133-139 (Jan. 1990).
- Stevens, Todd O., et al., *Selection and Isolation of Bacteria Capable of Degrading Dinoseb (2-sec-butyl-4,6-dinitrophenol)*, 2 BIODEGRADATION 1-13 (1991).
- Tiedje, James M., et al., *The Ecology of an Anaerobic Dechlorinating Consortium*, in ENVIRONMENTAL BIOTECHNOLOGY 3-14 (Omenn ed. 1988).
- Tratnyek, Paul G., *Abiotic Reduction of Nitro Aromatic Pesticides in Anaerobic Laboratory Systems Designed to Model Dissolved Organic Matter* (Aug. 1987).

*continued . . .*

3. Other References (continued)

- Tratnyek, Paul G., et al., *Abiotic Reduction of Nitro Aromatic Pesticides in Anaerobic Laboratory Systems*, 37 J. AGRIC. FOOD CHEM. 248-254 (1989).
- Tschech, Andeas, et al., *Methanogenic Degradation of Anthranilate (2-Aminobenzoate)*, 11 SYSTEM. APPL. MICROBIOL. 9-12 (1988).
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- Wallnöfer, P.R., et al., *Transformation of Dinitrophenol-Herbicides by Azotobacter Sp.*, 12 CHEMOSPHERE 967-972 (1978).
- Yang, Yan-Xi, et al., *Bacteria Transforming 2,4,6-trinitrotoluene ( $\alpha$ -TNT) and Their Application*, in 92 CHEMICAL ABSTRACTS 375, Abs. No. 134719 (1980).
- Zeyer, Josef, et al., *Degradation of o-Nitrophenol and m-Nitrophenol by a Pseudomonas putida*, 32(2) J. AGRIC. FOOD CHEM. 238-242 (1984).
- Ziegler, K., et al., *Studies on the Anaerobic Degradation of Benzoic Acid and 2-Aminobenzoic Acid by a Denitrifying Pseudomonas Strain*, 149 ARCH. MICROBIOL. 62-69 (1987).
- Ziegler, Klaus, et al., *Activation of Aromatic Acids and Aerobic 2-Aminobenzoate Metabolism in a Denitrifying Pseudomonas Strain*, 151 ARCH. MICROBIOL. 171-176 (1989).

Pursuant to 37 C.F.R. §1.98(d), copies of the above-listed references are not included herewith. Nonetheless, if it would facilitate the convenience of the Examiner in the prosecution of the above-captioned new application, copies of all or any of the above-listed references will promptly be provided, by hand delivery, if desired upon a telephonic request for such made by the Examiner to the undersigned at any of the telephone numbers listed below the signature thereof on the last page of this document. The references can be provided individually or collectively in a tabulated looseleaf notebook with a correlating table of contents.



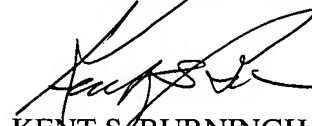
Pursuant to Manual of Patent Examining Procedure (M.P.E.P.) § 2001.06(b), the Examiner is respectfully requested to state in the record that each of the above-listed references have been considered in the present prosecution.

For convenience, copies of each of the following seven (7) forms from the prosecution of the Parent Application are enclosed:

1. Form PTO-1449 listing references A1-A47 initialed by the Examiner on  
June 25, 2001 (3 pages);
2. Form PTO-1449 listing references A1-A3 initialed by the Examiner on  
June 25, 2001 (1 page);
3. Form PTO-1449 listing references A1-A4 initialed by the Examiner on  
June 25, 2001 (1 page);
4. Form PTO-1449 listing references A1-A7 initialed by the Examiner on  
February 22, 2002 (1 page);
5. Form PTO-1449 listing references A1-A59 initialed by the Examiner on  
April 7, 2003 (5 pages);
6. Form PTO-892 listing references A-B mailed from the Patent Office on  
July 17, 2001 (1 page); and
7. Form PTO-892 listing references A-C mailed from the Patent Office on  
March 21, 2002 (1 page).

DATED this 3rd day of November, 2003.

Respectfully submitted,



KENT S. BURNINGHAM  
Attorney for Applicants  
Registration No. 30,453

TRASKBRITT, PC  
230 South 500 East, Suite 300  
Salt Lake City, Utah 84102 USA  
Telephone: (801) 532-1922  
Toll Free: (800) 900-2001  
Facsimile: (801) 531-9168

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Form PTO-1449

Applicant: Farrell G. Badger et al.  
 For: METHOD FOR BIOREMEDIATING  
 UNDETONATED EXPLOSIVE DEVICE

Att'y Docket No. 2411.3194.3US

Divisional of:

Serial No.: 09/666,073  
 Of: Farrell G. Badger et al.  
 Filing Date: September 19, 2000  
 Examiner: Peter A. Nelson  
 Art Unit: 3641

INFORMATION DISCLOSURE CITATIONS MADE BY APPLICANTU.S. Patent Documents

<u>Examiner Initial*</u>	<u>Document Number</u>	<u>Issue Date</u>	<u>Name</u>	<u>Class</u>	<u>Sub Class</u>	<u>Filing Date</u>
_____ A1	2,330,110	09/21/43	Buchan	166	21	10/31/41
_____ A2	3,157,119	11/17/64	Porter	102	21.8	01/27/61
_____ A3	3,710,718	01/16/73	Grant	102	23	02/04/71
_____ A4	4,016,117	04/05/77	Griffin	260	17.4	11/25/74
_____ A5	4,044,684	08/30/77	Gaggini et al.	102	90	07/13/76
_____ A6	4,064,941	12/27/77	Smith	166	300	08/02/76
_____ A7	4,108,728	08/22/78	Spinner et al.	195	127	07/28/76
_____ A8	4,351,729	09/28/82	Witt	210	603	02/06/80
_____ A9	4,365,557	12/28/82	Couture et al.	102	341	09/22/80
_____ A10	4,826,601	05/02/89	Spratt et al.	210	610	08/01/86
_____ A11	4,845,034	07/04/89	Menger et al.	435	167	01/06/86
_____ A12	4,919,813	04/24/90	Weaver	210	603	08/25/89
_____ A13	4,925,552	05/15/90	Bateson et al.	210	150	05/12/88
_____ A14	4,929,552	05/29/90	Gold et al.	435	128	11/17/89
_____ A15	4,961,381	10/09/90	McLaughlin	102	319	05/12/89
_____ A16	4,968,427	11/06/90	Glanser et al.	210	610	05/01/89
_____ A17	5,011,614	04/30/91	Gresser et al.	210	761	04/20/89

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Examiner:

Date Considered:

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Form PTO-1449

Applicant: Farrell G. Badger et al.  
 For: METHOD FOR BIOREMEDIATING  
 UNDETONATED EXPLOSIVE DEVICE

Att'y Docket No. 2411.3194.3US

Divisional of:

Serial No.: 09/666,073  
 Of: Farrell G. Badger et al.  
 Filing Date: September 19, 2000  
 Examiner: Peter A. Nelson  
 Art Unit: 3641

U.S. Patent Documents . . . continued

Examiner Initial*	Document Number	Issue Date	Name	Class	Sub Class	Filing Date
_____ A18	5,062,956	11/05/91	Lupton et al.	210	611	03/20/90
_____ A19	5,071,755	12/10/91	Nelson et al.	210	611	07/09/90
_____ A20	5,085,998	02/04/92	Lebron et al.	435	262	05/07/91
_____ A21	5,120,441	06/09/92	Jackson et al.	210	602	05/30/90
_____ A22	5,139,365	08/18/92	Chesner	405	129	09/04/90
_____ A23	5,139,776	08/18/92	Chazono et al.	424	92	02/03/89
_____ A24	5,296,146	03/22/94	Jackson et al.	210	602	06/08/92
_____ A25	5,302,285	04/12/94	Attaway et al.	210	605	09/20/93
_____ A26	5,314,821	05/24/94	Tyndall	435	252.1	02/01/93
_____ A27	5,370,845	12/06/94	Miller et al.	422	186.3	08/30/91
_____ A28	5,387,271	02/07/95	Crawford et al.	71	9	07/23/93
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_____ A36	5,511,482	04/30/96	DiPietropolo	102	426	07/11/94

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U.S. Patent Documents . . . continued

Examiner Initial*	Document Number	Issue Date	Name	Class	Sub Class	Filing Date
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_____ A38	5,543,324	08/06/96	Rajan et al.	435	252.4	02/28/95
_____ A39	5,578,487	11/26/96	Tyndall	435	262.5	05/19/95
_____ A40	5,578,488	11/26/96	Tyndall et al.	435	262.5	11/26/96
_____ A41	5,593,888	01/14/97	Glaze et al.	435	262.5	04/05/94
_____ A42	5,610,062	03/11/97	Tyndall	435	252.4	05/19/95
_____ A43	5,616,162	04/01/97	Crawford et al.	71	9	10/20/95
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_____ A45	5,736,669	04/07/98	Thomas et al.	102	293	06/04/96
_____ A46	5,763,736	06/09/98	Daume	588	203	04/10/97
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_____ A49	5,928,859	07/27/99	Nicklin et al.	435	4	02/02/88
_____ A50	6,051,420	04/18/00	Radtke et al.	435	262.5	05/20/98
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_____ A52	6,084,150	07/04/00	Crawford et al.	588	244	02/12/97
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_____ A54	6,156,560	12/05/00	Chun	435	253.3	07/07/99
_____ A55	6,248,580	06/19/01	Spain et al.	435	262.5	12/23/98

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U.S. Patent Documents . . . continued

Examiner Initial*	Document Number	Issue Date	Name	Class	Sub Class	Filing Date
_____ A56	6,274,368	08/14/01	Nicklin et al.	435	252.1	12/23/98
_____ A57	6,334,954	01/01/02	Crawford et al.	210	610	06/05/00
_____ A58	6,348,639	02/19/02	Crawford et al.	588	244	06/06/00
_____ A59	2002/0078849	06/27/02	Badger et al.	102	293	12/31/01

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Examiner Initial*	Document Number	Pub. Date	Country or Patent Office	Sub Class	Class	Trans- lation
_____ A60	251,320	01/07/88	Europe	C02F	3/34	N/A
_____ A61	512,660	11/11/92	Europe	A62D	3/00	Yes
_____ A62	3,818,398	12/14/89	Germany	A01B	79/00	Yes
_____ A63	4,141,940	12/23/93	Germany	F42D	5/04	Yes
_____ A64	1,396,372	06/04/75	Great Britain	C06B	31/00	N/A
_____ A65	8,602,985	06/16/88	Netherlands	B09B	3/00	Yes
_____ A66	WO 91/15440	10/17/91	PCT	C05F	11/08	N/A
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_____ A69	2,039,251	07/09/95	Russia	E21C	37/00	Yes

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Other Documents . . . continued

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**References Cited by Applicants**

While the filing of Information Disclosure Statements is voluntary, the procedure is governed by the guidelines of Section 609 of the Manual of Patent Examining Procedure and 37 C.F.R. §§ 1.97 and 1.98. To be considered a proper Information Disclosure Statement, Form PTO-1449 shall be accompanied by a copy of each listed patent or publication or other item of information and a translation of the pertinent portions of foreign documents (if an existing translation is readily available to the applicant), an explanation of relevance of each reference not in the English language, and should be submitted in a timely manner as set out in MPEP Sec. 609.

Examiners will consider all citations submitted in conformance with 37 C.F.R. § 1.98 and MPEP Sec. 609 and place their initials adjacent the citations in the spaces provided on this form. Examiners will also initial citations not in conformance with the guidelines which may have been considered. A reference may be considered by the Examiner for any reason whether or not the citation is in full conformance with the guidelines. A line will be drawn through a citation if it is not in conformance with the guidelines AND has not been considered. A copy of the submitted form, as reviewed by the Examiner, will be returned to the applicant with the next communication. The original of the form will be entered into the application file.

Each citation initialed by the Examiner will be printed on the issued patent in the same manner as references cited by the Examiner on Form PTO-892.

The reference designations "A1," "A2," etc. (referring to Applicant's reference 1, Applicant's reference 2, etc.) will be used by the Examiner in the same manner as Examiner's reference designations "A," "B," "C," etc. on Office Action Form PTO-1142.

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Sheet 1 of

Applicant: Farrell G. Badger et al.  
For: EXPLOSIVE WITH BIOREMEDIATING  
CAPACITY AND RELATED METHODS

Att'y Docket No. 2411.3194.2U

Divisional of:

Serial No.: 08/743,460  
Of: Farrell G. Badger et al.  
Filing Date: October 18, 1996  
Examiner: Peter A. Nelson  
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INFORMATION DISCLOSURE CITATIONS MADE BY APPLICANT

U.S. Patent Documents

Examiner Initial*	Patent Number	Issue Date	Name	Class	Sub Class	Filing Date	
<i>PN</i>	A1	2,330,110	09/21/43	Buchan	166	21	10/31/41
	A2	3,157,119	11/17/64	Porter	102	21.8	01/27/61
	A3	3,710,718	01/16/73	Grant	102	23	02/04/71
	A4	4,016,117	04/05/77	Griffin	260	17.4	11/25/74
	A5	4,044,684	08/30/77	Gaggini et al.	102	90	07/13/76
	A6	4,064,941	12/27/77	Smith	166	300	08/02/76
	A7	4,108,728	08/22/78	Spinner et al.	195	127	07/28/76
	A8	4,351,729	09/28/82	Witt	210	603	02/06/80
	A9	4,365,557	12/28/82	Couture et al.	102	341	09/22/80
	A10	4,845,034	07/04/89	Menger et al.	435	167	01/06/86
	A11	4,929,552	05/29/90	Gold et al.	435	128	11/17/89
	A12	4,961,381	10/09/90	McLaughlin	102	319	05/12/89
	A13	5,011,614	04/30/91	Gresser et al.	210	761	04/20/89
	A14	5,085,998	02/04/92	Lebron et al.	435	262	05/07/91
	A15	5,120,441	06/09/92	Jackson et al.	210	602	05/30/90
	A16	5,139,365	08/18/92	Chesner	405	129	09/04/90
	A17	5,139,776	08/18/92	Chazono et al.	424	92	02/03/89
	A18	5,296,146	03/22/94	Jackson et al.	210	602	06/08/92
<i>PN</i>	A19	5,302,285	04/12/94	Attaway et al.	210	605	09/20/93

continued...

Examiner:

*Peter A. Nelson*

Date Considered:

*June 25, 2001*

\*EXAMINER: Initial if reference considered, whether or not citation

Form PTO-1449

Applicant: Farrell G. Badger et al.  
 For: EXPLOSIVE WITH BIOREMEDIATING  
 CAPACITY AND RELATED METHODS

Att'y Docket No. 2411.3194.2US

Divisional of:

Serial No.: 08/743,460  
 Of: Farrell G. Badger et al.  
 Filing Date: October 18, 1996  
 Examiner: Peter A. Nelson  
 Art Unit: 3641

... continued

Examiner Initial*	Patent Number	Issue Date	Name	Class	Sub Class	Filing Date	
<i>JPm</i>	A20	5,314,821	05/24/94	Tyndall	435	252.1	02/01/93
	A21	5,370,845	12/06/94	Miller et al.	422	186.3	08/30/91
	A22	5,387,271	02/07/95	Crawford et al.	71	9	07/23/93
	A23	5,392,860	02/28/95	Ross	166	376	03/15/93
	A24	5,414,198	05/09/95	Broadman et al.	588	202	08/12/94
	A25	5,420,035	05/30/95	Tyndall	435	252.1	02/28/94
	A26	5,449,618	09/12/95	Tyndall et al.	435	262.5	12/16/93
	A27	5,455,173	10/03/95	Crawford et al.	435	264	04/18/94
	A28	5,478,743	12/26/95	Perkins et al.	435	262.5	03/11/94
	A29	5,484,730	01/16/96	Tyndall et al.	435	264	02/21/95
	A30	5,511,482	04/30/96	DiPietropolo	102	426	07/11/94
	A31	5,518,919	05/21/96	Tyndall	435	262.5	02/15/95
	A32	5,543,324	08/06/96	Rajan et al.	435	252.4	02/28/95
	A33	5,578,488	11/26/96	Tyndall et al.	435	262.5	11/26/96
	A34	5,593,888	01/14/97	Glaze et al.	435	262.5	04/05/94
	A35	5,610,062	03/11/97	Tyndall	435	252.4	05/19/95
	A36	5,616,162	04/01/97	Crawford et al.	71	9	10/20/95
	A37	5,711,020	01/20/98	Wolfe et al.	588	203	04/16/96
	A38	5,736,669	04/07/98	Thomas et al.	102	293	06/04/96
<i>JPm</i>	A39	5,763,736	06/09/98	Daume	588	203	04/10/97

continued...

Examiner:

*Peter A. Nelson*

Date Considered:

*JUNE 26, 2001*

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449

Applicant: Farrell G. Badger et al.  
 For: EXPLOSIVE WITH BIOREMEDIATING  
 CAPACITY AND RELATED METHODS

Att'y Docket No. 2411.3194.2US

Divisional of:

Serial No.: 08/743,460  
 Of: Farrell G. Badger et al.  
 Filing Date: October 18, 1996  
 Examiner: Peter A. Nelson  
 Art Unit: 3641

... continued

Examiner Initial*	Patent Number	Issue Date	Name	Class	Sub Class	Filing Date
<i>Jan</i> A40	5,763,815	06/09/98	Thomas et al.	102	293	06/04/96
<i>Jan</i> A41	5,814,514	09/29/98	Steffan et al.	435	262	07/10/96

Foreign Patent Documents

Examiner Initial*	Document Number	Publ. Date	Country or Patent Office	Sub Class	Class	Trans- lation
<i>Jan</i> A42	512,660	11/11/92	Europe	A62D	3/00	Yes

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(including author (if listed), title, relevant pages, date of publication including at least month and year).

Examiner Initial*	
<i>Jan</i> A43	Boopathy, R., et al., <u>Biological Transformation of 2, 4, 6 - Trinitrotoluene (TNT) By Soil Bacteria Isolated from TNT - Contaminated Soil</u> , 47 Bioresource Technology 19 (1994).
<i>Jan</i> A44	Boopathy, R., et al., " <u>Biotransformation of 2, 4, 6 - Trinitrotoluene (TNT) By Co-Metabolism With Various Co-Substrates: A Laboratory-Scale Study</u> ," 47 Bioresource Technology 205 (1994).
<i>Jan</i> A45	Kaplan, David L., <u>Biotechnology and Bioremediation for Organic Energetic Compounds</u> , ORGANIC ENERGETIC COMPOUNDS, 373-416 (Marinkas, Paul L. ed. 1944).
<i>Jan</i> A46	Knezovich, John P., et al., <u>Chemical and Biological Systems for Regenerating Activated Carbon Contaminated with High Explosives</u> , paper submitted to Proceedings Demin '94 in Luxembourg, Luxembourg (November 14-16, 1994).
<i>Jan</i> A47	Knezovich, John P., et al., <u>Chemical and Biological Systems for Treating Waste Streams Contaminated with High Explosives</u> , paper submitted for JANNAF Safety and Environmental Protection Subcommittee Meeting in Tampa, Florida (December 5-8, 1995).

Examiner:

*Peter A. Nelson*

Date Considered:

*June 26, 2001*

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include name of examiner.

Applicant: Farrell G. Badger et al.

Att'y Docket No. 2411.3194.2US

Serial No.: 09/666,073

Group: 3641

Filing Date: September 19, 2000

For: METHOD FOR BIOREMEDIATING UNDETONATED EXPLOSIVE DEVICE

INFORMATION DISCLOSURE CITATIONS MADE BY APPLICANTU.S. Patent Documents

Examiner Initial*	Patent Number	Issue Date	Name	Class	Sub Class	Filing Date
JEM	A1 5,578,487	11/26/96	Tyndall	435	262.5	05/19/95
JEM	A2 6,051,420	04/18/00	Radtke et al.	435	262.5	05/20/98
JEM	A3 6,066,772	05/23/00	Hater et al.	588	202	08/28/98

Foreign Patent Documents

Examiner Initial*	Document Number	Publ. Date	Country or Patent Office	Sub Class	Class	Trans- lation
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-- none --

Other Documents

JEM A4 Sidhoum, Mohammed, et al., Enhanced Alkaline Hydrolysis and Biodegradability Studies of Nitrocellulose-Bearing Missile Propellant, Stevens Institute of Technology 87-98 (January 1998).

References Cited by Applicants

While the filing of Information Disclosure Statements is voluntary, the procedure is governed by the guidelines of Section 609 of the Manual of Patent Examining Procedure and 37 C.F.R. §§ 1.97 and 1.98. To be considered a proper Information Disclosure Statement, Form PTO-1449 shall be accompanied by a copy of each listed patent or publication or other item of information and a translation of the pertinent portions of foreign documents (if an existing translation is readily available to the applicant), an explanation of relevance of each reference not in the English language, and should be submitted in a timely manner as set out in MPEP Sec. 609.

Examiners will consider all citations submitted in conformance with 37 C.F.R. § 1.98 and MPEP Sec. 609 and place their initials adjacent the citations in the spaces provided on this form. Examiners will also initial citations not in conformance with the guidelines which may have been considered. A reference may be considered by the Examiner for any reason whether or not the citation is in full conformance with the guidelines. A line will be drawn through a citation if it is not in conformance with the guidelines AND has not been considered. A copy of the submitted form, as reviewed by the Examiner, will be returned to the applicant with the next communication. The original of the form will be entered into the application file.

Each citation initialed by the Examiner will be printed on the issued patent in the same manner as references cited by the Examiner on Form PTO-892.

The reference designations "A1", "A2", etc. (referring to Applicant's reference 1, Applicant's reference 2, etc.) will be used by the Examiner in the same manner as Examiner's reference designations "A", "B", "C", etc. on Office Action Form PTO-1142.

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Date Considered:

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PTO-1449  
Applicant: Farrell G. Badger et al.  
Serial No.: 09/666,073  
Filing Date: September 19, 2000  
For: METHOD FOR BIOREMEDIATING UNDETONATED EXPLOSIVE DEVICE

INFORMATION DISCLOSURE CITATIONS MADE BY APPLICANT

U.S. Patent Documents

Examiner Initial*	Patent Number	Issue Date	Name	Class	Sub Class	Filing Date
<i>Jm</i> A1	6,120,627	09/19/00	Badger et al.	149	108.8	10/18/96

Foreign Patent Documents

Examiner Initial*	Document Number	Publ. Date	Country or Patent Office	Sub Class	Class	Trans- lation
<i>Jm</i> A2	4,141,940	12/23/93	Germany	F42D	5/04	Yes
<i>Jm</i> A3	2,039,251	07/09/95	Russia		37/00	Yes

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Other Documents

-- none --

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References Cited by Applicants

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Examiner:

*Peter A. Nelson*

Date Considered:

*J*

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. If not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Farrell G. Badger et al.  
 Serial No.: 09/666,073  
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 For: METHOD FOR BIOREDIATING  
 UNDETONATED EXPLOSIVE DEVICE

Att'y Docket No. 2411.3194.2US  
 Group: 3641

# INFORMATION DISCLOSURE CITATIONS MADE BY APPLICANT

## U.S. Patent Documents

Examiner Initial*	Patent Number	Issue Date	Name	Class	Sub Class	Filing Date
<i>SM</i> A1	5,928,859	07/27/99	Nicklin et al.	435	4	02/02/88
A2	6,084,150	07/04/00	Crawford et al.	588	244	02/12/97
A3	6,156,560	12/05/00	Chun	435	253.3	07/07/99
A4	6,248,580	06/19/01	Spain et al.	435	262.5	12/23/98
A5	6,274,368	08/14/01	Nicklin et al.	435	252.1	12/23/98
<i>SM</i> A6	6,334,954	01/01/02	Crawford et al.	210	610	06/05/00

## Foreign Patent Documents

Examiner Initial*	Document Number	Publ. Date	Country or Patent Office
<i>SM</i> A7	1,396,372	06/04/75	Great Britain

## Other Documents

-- none --

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## References Cited by Applicants

While the filing of Information Disclosure Statements is voluntary, the procedure is governed by the guidelines of Section 609 of the Manual of Patent Examining Procedure and 37 C.F.R. §§ 1.97 and 1.98. To be considered a proper Information Disclosure Statement, Form PTO-1449 shall be accompanied by a copy of each listed patent or publication or other item of information and a translation of the pertinent portions of foreign documents (if an existing translation is readily available to the applicant), an explanation of relevance of each reference not in the English language, and should be submitted in a timely manner as set out in MPEP Sec. 609.

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Examiner:

*Peter A. Nelson*

Date Considered:

*Feb. 22, 2002*

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

TO-1449

Applicant: Farrell G. Badger et al.  
 Serial No.: 09/666,073  
 Filing Date: September 19, 2000  
 For: METHOD FOR BIOREMEDIATING UNDETONATED EXPLOSIVE DEVICE

Att'y Docket No. 2411.3194.2US  
 Group: 3641



INFORMATION DISCLOSURE CITATIONS MADE BY APPLICANT

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**GROUP 3600**

U.S. Patent Documents

Examiner Initial*	Document Number	Issue/Pub. Date	Name	Class	Sub Class	Filing Date
<i>JM</i>	A1	4,826,601	05/02/89	Spratt et al.	210 610	08/01/86
	A2	4,919,813	04/24/90	Weaver	210 603	08/25/89
	A3	4,925,552	05/15/90	Bateson et al.	210 150	05/12/88
	A4	4,968,427	11/06/90	Glanser et al.	210 610	05/01/89
	A5	5,062,956	11/05/91	Lupton et al.	210 611	03/20/90
	A6	5,071,755	12/10/91	Nelson et al.	210 611	07/09/90
	A7	6,084,150	07/04/00	Crawford et al.	588 244	02/12/97
	A8	6,334,954	01/01/02	Crawford et al.	210 610	06/05/00
	A9	6,348,639	02/19/02	Crawford et al.	588 244	06/06/00
<i>JM</i>	A10	2002/0078849	06/27/02	Badger et al.		

Foreign Patent Documents

Examiner Initial*	Document Number	Pub. Date	Country or Patent Office	Sub Class	Class	Translation
<i>JM</i>	A11	251,320	01/07/88	Europe	C02F 3/34	N/A
	A12	3,818,398	12/14/89	Germany	A01B 79/00	Yes
	A13	8,602,985	06/16/88	Netherlands	B09B 3/00	Yes
	A14	WO 91/15440	10/17/91	PCT	C05F 11/08	N/A
	A15	WO 95/01311	01/12/95	PCT	C02F 3/34	Yes
<i>JM</i>	A16	WO 95/03259	02/02/95	PCT	C05F 11/08	N/A

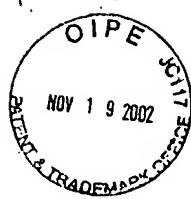
Examiner:

*Peter A. Nelson*

Date Considered:

*Apr. 7, 2003*

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Att'y Docket No. 2411.3194.2US  
Group: 3641TO-1449  
Applicant: Farrell G. Badger et al.  
Label No.: 09/666,073  
Filing Date: September 19, 2000  
For: METHOD FOR BIOREMEDIATING UNDETONATED EXPLOSIVE DEVICEOther Documents

Examiner

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A21

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A26

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GROUP 3600

Examiner:

Date Considered:

APR. 2, 2003

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Att'y Docket No. 2411.3194.2US  
Group: 3641O-1449  
licant:  
al No.:  
ing Date:  
for:Farrell G. Badger et al.  
09/666,073

September 19, 2000

METHOD FOR BIOREMEDIATING UNDETONATED EXPLOSIVE DEVICE

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Initial\*

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Examiner:

Date Considered:

APR. 7, 2003

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



O-1449



Applicant: Farrell G. Badger et al.  
Label No.: 09/666,073  
Filing Date: September 19, 2000  
For: METHOD FOR BIOREMEDIATING UNDETONATED EXPLOSIVE DEVICE

Att'y Docket No. 2411.3194.2US  
Group: 3641

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Examiner

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-  A40 Rafii, Fatemah, et al., "Reduction of Nitroaromatic Compounds by Anaerobic Bacteria Isolated From the Human Gastrointestinal Tract," 57 APPL. ENVIRON. MICROBIOL. 962-968 (1991).
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- A42 Schink, Bernard, "Principles and Limits of Anaerobic Degradation: Environmental and Technological Aspects," in BIOLOGY OF ANAEROBIC MICROORGANISMS 771-846 (Zinder ed. 1988).
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PTO-1449

Applicant:

Farrell G. Badger et al.

Patent No.:

09/666,073

Filing Date:

September 19, 2000

For:

METHOD FOR BIOREMEDIATING UNDETONATED EXPLOSIVE DEVICE

Att'y Docket No. 2411.3194.2US

Group: 3641

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While the filing of Information Disclosure Statements is voluntary, the procedure is governed by the guidelines of Section 609 of the Manual of Patent Examining Procedure and 37 C.F.R. §§ 1.97 and 1.98. To be considered a proper Information Disclosure Statement, Form PTO-1449 shall be accompanied by a copy of each listed patent or publication or other item of information and a translation of the pertinent portions of foreign documents (if an existing translation is readily available to the applicant), an explanation of relevance of each reference not in the English language, and should be submitted in a timely manner as set out in MPEP Sec. 609.

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<b>Notice of References Cited</b>		Application No. <b>666,023</b>	Applicant(s) <b>Badger et al.</b>	
		Examiner <b>Nelson</b>	Group Art Unit <b>3641</b>	Page <b>1</b> of <b>2</b>

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Application No.

666,073

Applicant(s)

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3641

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